

WHAT IS CLAIMED IS:

5 1. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:  
a probe having a proximal end and a distal end;  
a surgical end effector disposed adjacent the distal end of the probe;  
an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and  
circuitry mounted on the probe, the circuitry defining a signal for transmitting to the processor so as to indicate compatibility of the tool with the system.

10 2. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:  
a probe having a proximal end and a distal end;  
a surgical end effector disposed adjacent the distal end of the probe;  
an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder;  
circuitry mounted on the probe, the circuitry defining a signal for transmitting to the processor so as to indicate compatibility of the tool with the system; and  
a sterile adapter releasably mounted to the tool holder, the adapter coupling the tool holder to the interface, wherein the circuitry transmits the signal to the processor of  
20 the robotic surgical system via the adapter.

3. The robotic surgical tool of claim 1, wherein the signal comprises unique tool identifier data.

25 4. The robotic surgical tool of claim 1, wherein the probe body comprises an elongate shaft suitable for distal insertion via a minimally invasive aperture to an internal surgical site of a patient body.

5. The robotic surgical tool of claim 4, wherein the end effector is adapted for manipulating tissue, and further comprising a wrist joint coupling the end effector to the shaft for varying an orientation of the end effector within the internal surgical site.

30 6. The robotic surgical tool of claim 1, wherein the end effector defines a field of view, the probe comprising an image capture device.

7. A robotic surgical component for use in a robotic surgical system having a processor and a component holder, the component comprising:  
a component body having an interface mountable to the component holder, the body supporting a surgical end effector;  
5 a drive system coupled to the body, the drive system moving the end effector in response to commands from the processor; and  
circuitry mounted on the body, the circuitry defining a signal for transmitting to the processor, the signal comprising at least one member selected from the group consisting of compatibility of the component with the system, a component-type of the component, coupling of the component to the system, and calibration of the component.

8. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:  
a probe having a proximal end and a distal end;  
a surgical end effector disposed adjacent the distal end of the probe;  
an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and  
circuitry mounted on the probe, the circuitry transmitting a signal via the interface to the processor so as to indicate a tool-type of the tool.

9. The tool of claim 8, further comprising at least one joint disposed between the interface and end effector, the joint defining a joint axis geometry, and wherein the signal indicates the joint geometry of the tool to the processor.

10. The tool of claim 8, wherein the end effector has a strength, and wherein the signal indicates the strength of the end effector to the processor.

11. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:  
25 a probe having a proximal end and a distal end;  
a surgical end effector disposed adjacent the distal end of the probe;  
an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and  
30 circuitry mounted on the probe, the circuitry transmitting a signal via the interface to the processor so as to indicate tool calibration offsets of the tool.

Station	Time	Lat	Long	Alt	Wind	Temp	Humid	Clouds	Pressure	Remarks
1	0000	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
2	0100	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
3	0200	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
4	0300	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
5	0400	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
6	0500	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
7	0600	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
8	0700	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
9	0800	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
10	0900	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
11	1000	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
12	1100	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
13	1200	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
14	1300	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
15	1400	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
16	1500	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
17	1600	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
18	1700	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
19	1800	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
20	1900	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
21	2000	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
22	2100	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
23	2200	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear
24	2300	34° 15' N	121° 05' E	10	000	10.0	100	000	1013.2	Clear